Namespaces Solutions

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Namespace

- Briefly explain what is meant by the term "namespace" in C++
  - A namespace groups together related symbols, usually within a library
- Give an example of a namespace
  - The C++ Standard Library defines the std namespace
  - This groups together the names of all the functions, types and variables (such as cout) defined by the Standard Library

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Namespace example

- Write down code to
  - Define a namespace
  - Declare a class inside this namespace
  - Create an object of this class, outside the namespace

```
namespace abc {
    class Test;
}

abc::Test alphaTest;
```

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Global namespace

- What is meant by the term "global namespace"?
  - The global namespace is used for all symbols that are not declared inside a specific namespace
- How do we declare a symbol in the global namespace?
  - Declare it outside any namespace
- Give an example of how to unambiguously refer to a symbol from the global namespace

```
::Test globalTestObject;
```

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Name Hiding

- What is meant by "name hiding"?
  - When a name is declared in a namespace which is the same as a name outside the namespace, the outside name is "hidden" inside the namespace
- Write a program which demonstrates name hiding
- Add code to your program which makes the outside name accessible within the namespace

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Using Declarations

- In the following code, which version of Test is used to create the object?

```
class Test;
namespace abc {
    class Test { ... };
}
namespace xyz {
    class Test { ... };
}

using xyz::Test;
Test testObject;                    // Creates an object of xyz::Test
```

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